



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,918	12/07/2001	David R. Cheriton	M-9764 US	6156

33031 7590 12/08/2006

CAMPBELL STEPHENSON ASCOLESE, LLP
4807 SPICEWOOD SPRINGS RD.
BLDG. 4, SUITE 201
AUSTIN, TX 78759

EXAMINER

SHAW, PELING ANDY

ART UNIT PAPER NUMBER

2144

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/010,918	Applicant(s) CHERITON, DAVID R.	
	Examiner Peling A. Shaw	Art Unit 2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

pas

DETAILED ACTION

Continued Examination under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/11/2006 has been entered. Claims 1, 9, 17, 24, 32, 40 and 48 are amended. Claims 1-58 are currently pending.
2. Amendment received on 02/27/2006 was entered into record. Claims 9, 12, 17, 32, 35, 48 and 51 were amended. Claims 56-58 were new.

Priority

3. This application has no priority claim made. The filing date is 12/07/2001.

Claim Rejections - 35 USC § 101 Utility

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 40-55 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- a. Claims 40 and 48 recites the limitation of "A computer program product for processing a packet encoded in computer readable media, said program product comprising a set of instructions executable on a computer system comprising ... " that is a program per se and is not limited to tangible embodiments, e.g. a storage or a memory media. As such, the claims lack a clearly necessary physical articles or

objects necessary for it to be a machine or a manufacture within the meaning of 35 USC 101, and it's clearly not a series of steps or acts so as to be a process or combination of two or more substances so as to be a composition of matter, it fails to fall within a statutory category. Since the claim is not limited to embodiments eligible for patent protection, it is being rejected as non-statutory as directed to a form of energy rather than a patent-eligible machine, manufacture, process or composition of matter. Claims 40, 48, their dependent claims 41-47 and 49-55 are thus rejected.

- b. It is recommend that claims 40 and 48 are to be amended as:

“A storage media comprising program instructions executable on a computer system with a content-addressable memory for processing a packet to: ... ” and claims 41-47 and 49-55 are to be amended as “A storage media of claim 40 (48), ...”.

- c. For the purpose of applying art, claims 17-25 are read as with above suggested claim language changes.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Uga et al. (US 6718326 B2), hereinafter referred as Uga.

- a. Regarding claim 1, Uga disclosed a method of processing a packet comprising:
populating a plurality of multi-feature packet processing rules in a multi-feature classification memory (column 20, line 51-60); and populating an associated content-addressable memory with a plurality of indices, wherein said indices are indices of said plurality of multi-feature packet processing rules in said multi-feature classification memory (column 20, line 37-50), and said content-addressable memory and said multi-feature classification memory are associated with one another by virtue of being coupled to one another (Fig. 4, 6 and 23; column 3, lines 41-49: CAM and search result storage memory; column 10, lines 52-62: CAM and search result storage device are coupled via packet classification search processing unit via flag, tags and association tags; column 13, line 45-column 15, line 4).
- b. Regarding claim 2, Uga disclosed the method of claim 1, further comprising:
identifying a classification of said packet; and using said classification to identify said multi-feature packet processing rule (column 20, line 37-43).
- c. Regarding claim 3, Uga disclosed the method of claim 2, wherein said classification is based on a plurality of parameters of said packet (column 20, line 37-43).
- d. Regarding claim 4, Uga disclosed the method of claim 2, further comprising:
receiving said packet; finding a match for said classification in said associated content-addressable memory; and receiving one of said indices from said associated

- content-addressable memory for one of said multi-feature packet processing rules in said multi-feature classification memory (column 20, line 61-column 21, line 12).
- e. Regarding claim 5, Uga disclosed the method of claim 4, further comprising: using said index to receive said multi-feature packet processing rule from said multi-feature classification memory (column 20, line 61-column 21, line 12).
 - f. Regarding claim 6, Uga disclosed the method of claim 4, wherein said content-addressable memory is a multi-feature content addressable memory (column 20, line 44-50).
 - g. Regarding claim 7, Uga disclosed the method of claim 4, wherein said content-addressable memory is a feature based content-addressable memory bank (column 20, line 44-50).
 - h. Regarding claim 8, Uga disclosed the method of claim 7, wherein said multi-feature packet processing rules are populated in said multi-feature classification memory according to a feature hierarchy (column 3, line 19-40).
 - i. Claims 9-16 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
 - j. Claims 17-23 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
 - k. Claims 24-31 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
 - l. Claims 32-39 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.

Art Unit: 2144

- m. Claims 40-47 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
- n. Claims 48-55 are of the same scope as claims 1-8. These are rejected for the same reasons as for claims 1-8.
- o. Claims 56 and 58 are of the same scope as claims 1 and 4-5. These are rejected for the same reasons for claims 1 and 4-5.
- p. Claim 57 is of the same scope as claims 1-2. It is rejected for the same reasons as for claims 1-2.

Uga disclosed all limitations of claims 1-58. Claims 1-58 are rejected under 35 U.S.C.

102(e).

Response to Arguments

6. Applicant's arguments filed on 09/11/2006 have been fully considered, but they are not persuasive.
- a. Examiner has reviewed amended claim changes and searched in the previously applied prior arts, particularly Uga the modified claim language. Examiner has identified the prior references and updated claim rejections as above.
 - b. Applicant has alleged that the claimed invention is based upon two memories coupled via index. Examiner has reviewed Uga and found that in addition to search result storage device as examiner has previously applied to the rejection of claimed invention, Uga does have also referred to the usage of search result storage memory Fig. 23; column 3, lines 41-49. Examiner has also identified the terminology used in Uga in corresponding to applicant claimed invention with respect to index is associated tag. Uga has particularly shown (Fig. 4-6, column 10, lines 52-62 and column 13, line 45-column 15, line 4) the functions of association tags work with content addressable memory and search result storage device (memory). The claim 1 rejection is updated with examiner's new finding.
 - c. Similar allegation are raised by applicant on item a of section 4, i.e. the Response to Arguments of Office Action dated 06/06/2006. Examiner would apply item a above to support the response to argument item a in office action dated 06/06/2006. Examiner would like to point in Fig. 23 and related Uga references, i.e. column 23, lines 40-59, a search into the content addressable memory has clearly directed, i.e. indexed, into search result storage device/memory.

- d. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see item a in section 4). Uga has shown using content addressable to direct search result to a search result storage device/memory for packet classification search. Similar arts are identified in Reference Cited and Other Publications sections of Uga as well as those listed in the following Remark section. It is clear that Applicant must be able to submit claim language to distinguish over the prior arts used in the above rejection sections that discloses distinctive features of Applicant's claimed invention. It is suggested that Applicant compare the original specification and claim language with the cited prior art used in the rejection section above or the Remark section below to draw an amended claim set to further the prosecution.
- e. Failure for Applicant to narrow the definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant's intent to broaden claimed invention. Examiner interprets the claim language in a scope parallel to the Applicant in the response. Examiner reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Remarks

7. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

- a. Mate et al. (US 20030056001 A1) Selective routing of data flows using a TCAM
- b. Woo (US 20020023089 A1) Modular packet classification
- c. Fowler et al. (US 6504819 B2) Classes of service in an MPOA network
- d. Ginossar (US 6477143 B1) Method and apparatus for packet network congestion avoidance and control
- e. Gai et al. (US 6167445 A) Method and apparatus for defining and implementing high-level quality of service policies in computer networks
- f. Herbert (US 5325445 A) Feature classification using supervised statistical pattern recognition
- g. Schultz et al. (1994 IEEE) CAM-Based Single-Chip Shared Buffer ATM Switch
- h. Joffe et al. (US 6415354 B1) Pipelined methods and apparatus for weight selection and content addressable memory searches
- i. Abdat (US 6484170 B2) Generating searchable data entries and applications therefore

Art Unit: 2144

Conclusion

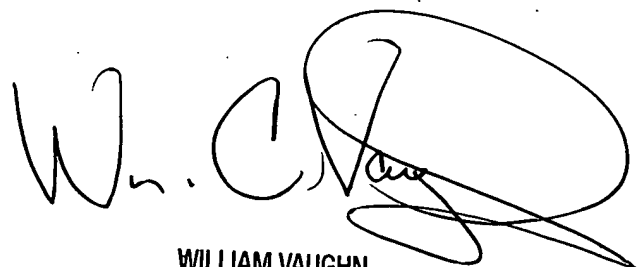
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pas pas



WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100